

IV. Those of Skill in the Art and the PTO Understand the Term "70% Homology"

Claim 7 was rejected under 35 U.S.C. §112, 2nd paragraph, because the examiner believes the term "% homology" does not define the scope of the invention.

Applicant disagrees with the examiner's position that "amino acid or nucleic acid sequences are either homologous or they are not." (Action, page 5) Those of skill in the art would appreciate that 70% homology means that 70% of nucleotides would be the same in corresponding positions.

However, based on suggestions by the U.S. Patent and Trademark Office at the December 9, 1998, "PTO Day," the claim is amended to include cDNA molecules with sequences that hybridize to a molecule having SEQ ID NO:1 under stringent conditions (see page 20, lines 2-8).

V. Claims 9-11 Are Amended.

Claims 9-11 were rejected under 35 U.S.C. §112, 2nd paragraph.

Claims are amended to "a molecule having an amino acid sequence," the Markush format of claim 9 is corrected, and SEQ ID NOS. have been amended into claims 9-10.

VI. Claims 9-11 Are Not Anticipated.

To anticipate, a publication must teach all elements of a claim.

The examiner's argument that "a single amino acid" would satisfy the definition of a "fragment" in claim 9 is not reasonable considering what those of skill in the art would ever use in a vaccine. The only identity the examiner related between Hodges and the sequences of claim 9 is a **proline residue**. A proline residue *per se* would not invoke an immune response. To emphasize this, claim 9 is amended to include the modifier "immunologically active." On page 18 of the specification, lines 14-24, is indicated that an epitope is slightly smaller than about 6-7 amino acids. An epitope is needed for an active vaccine, therefore a size of "one" amino acid is not suitable. Therefore, the rejection over Hodges *et al.* is not grounded in reality. Furthermore, a "fragment" is only one element of claim 9.

Claims 10 and 11 are not anticipated by Karioth because SEQ ID NOS:6 and 8 of the present invention are isolated peptides which are not the same as Karioth's sequence, which is much longer. To anticipate a claim, a publication must teach **all** the elements of the claim. There is no teaching in Karioth of the **isolated** molecules of the claims with the amino acids in the claimed sequences. By similar reasoning, Jia does not anticipate claim 10.

VII. Other Issues

Applicant will defer correcting the drawings until claims are allowed.

In claims 6 and 7 the term "segment" has been replaced with "molecule." Claims 6, 7, 9-11 are amended to relate "molecules" not "sequences." SEQ ID NOS: are amended into the claims. The limitations of withdrawn claims 1 and 2 are expressly amended into claims 6 and 7.

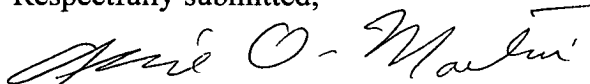
VIII. Summary and Conclusion

For the reasons stated above, Applicant requests reconsideration and allowance of pending claims.

Please contact Applicant's representative if there are further issues.

The Commissioner is hereby authorized to charge the Barnes & Thornburg Deposit Account No. 10-0435 for any deficiencies, or credit any overpayments, as the case may be.

Respectfully submitted,



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